

REMARKS

Status of the Claims

Claims 1 – 5, 14 – 18, 20 – 23, 25 – 27, and 29 – 34 were pending in the present application.

Claims 1 – 5, 14 – 18, 20 – 23, 25 – 27, and 29 – 34 were rejected.

Applicants respectfully request that claims 1 – 5, 14 – 18, 20, 25 – 27, and 29 – 31 be canceled.

Upon entry of this amendment, claims 21 – 23 and 32 – 34 will be pending.

Summary of the Amendment

The claims have been amended to place them in better condition for appeal. Upon entry of the amendment, only claims 21 – 23 and 32 – 34 will be pending.

Claim Rejections Under 35 U.S.C. § 112, First Paragraph

Claims 1 – 5, 14, 15, 20, 25 – 27, and 29 – 34 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification commensurate in scope to the claims. The Office asserts that “Applicants do not have possession of the genus of functional Vpr fragments.” (Office Action, p. 3).

Claims 1 – 5, 14, 15, 20, 25 – 27, and 29 – 31 have been canceled.

Claims 32 – 34 do not recite “functional Vpr fragments.” The basis provided for rejecting the claims under 35 U.S.C. § 112, first paragraph, do not apply to claims 32 – 34. Applicants respectfully request that the rejection as applied to 32 – 34 be withdrawn.

Claim Rejection Under 35 U.S.C. 103

Claims 1 – 5, 14 – 18, 20 – 23, 25 – 27, and 29 – 34 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Rogel, *et. al.*, *Journal of Virology*, February 1995 (hereinafter “Rogel”). Applicants respectfully disagree and traverse the rejection based upon 35 U.S.C. § 103(a).

Claims 1 – 5, 14, 15, 20, 25 – 27, and 29 – 31 have been canceled.

Claims 21 – 23 refer to methods of preventing lymphocyte activation; claims 32 – 34 refer to methods of inhibiting lymphocyte activation. Claim 21 refers to obtaining isolated Vpr protein and contacting lymphocyte cells with an amount of Vpr protein effective to prevent activation. Claim 32 refers to obtaining isolated Vpr protein and contacting lymphocyte cells with an amount of said Vpr protein effective to inhibit activation, wherein cytokine production and secretion are inhibited.

Applicants respectfully urge that Rogel neither teaches nor suggests the subject matter of Claims 21 – 23 or claims 32 – 34.

Rogel discloses data comparing cell proliferation of HIV-infected lymphocyte cell lines when infected with HIV strains comprising wild-type or *vpr-* mutations. Rogel discloses that populations of lymphocyte cell lines infected with *vpr-* HIV strains on recovered following initial death of a large proportion of infected cells.

Rogel does not disclose obtaining isolated Vpr protein. Rogel does not disclose contacting lymphocyte cells with an amount of the Vpr protein effective to prevent activation. Rogel does not disclose contacting lymphocyte cells with an amount of the Vpr protein effective to inhibit activation, such that cytokine production and secretion of immunoglobulin by lymphocyte cells are inhibited. Rogel is completely silent with regard to lymphocyte activation, cytokine production, and cytokine secretion. Rogel neither teaches nor suggests any effect of Vpr protein on the activation of infected lymphocyte populations.

Applicants contend that the invention was not *prima facie* obvious at the time of the invention. The invention relates to lymphocyte activation. Rogel is silent with respect to lymphocyte activation. It would not be obvious for one skilled in the art at the time of the invention to make or use the claimed invention. Accordingly, the Office has not established a *prima facie* case for obviousness.

The claims are not *prima facie* obvious. Applicants respectfully request the rejection based upon §103(a) to be withdrawn with respect to claims 21 – 23 and 32 – 34.

Conclusion

Claims 21 – 23 and 32 – 34 are in condition for allowance. A notice of allowance is earnestly solicited. Applicants invite the Examiner to contact the undersigned at 610.640.7855 to clarify any unresolved issues raised by this response.

As indicated on the transmittal accompanying this response, the Commissioner is hereby authorized to charge any debit or credit any overpayment to Deposit Account 50-0436.

Respectfully Submitted,

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